65 m^2 00 (700 sq ft). The width might be reduced slightly by increasing the length. There are advantages in reducing the span of the roof, as well as disadvantages in making the furnace too long, but it is possible that a length of 14 m 00 (45.90 ft) with a width of 4 m 650 (15.25 ft), giving an area of 65 m^2 11 (701 sq ft), would be satisfactory.

The temperature in the heating chamber will be 1800° C. (3272° F.) for the gases, the roof being 50° to 100° C. (90° to 180° F.) cooler, and the bath from 150° to 250° C. (270° to 450° F.) cooler. The height of the chamber may be approximated by Yesmann's formula

in which *ht=the* thickness of .the layer of gas in motion in meters (or feet) ;

Qi=the volume of gas in cubic meters (or cubic feet) at *t°* temperature;

jB = the width of the furnace in meters (or feet);

A = & coefficient which varies for each value of *h* and *Bj*

t = temperature Centigrade

TABLE 12

TABLE GIVING THE VALUES OF *A* FOR METRIC UNITS

	Values of *B*

ht	1 mOO	2 mOO	5m 00
Om 30	3.42	3.54	3.62
Om 50	3.29	3.46	3.57
Om75	3.13	3.37	3.54
1 m 00	2.97	3.28	3.53

This formula may be translated to English units as follows: